

ART. IX.—*Notes on Australian Hydrozoa, with Descriptions of Two New Species.*

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Prior to 1926, a considerable amount of work was done in connexion with the systematic review of the Australian Hydrozoa, but since that date very little has been recorded. During the past two years two new species, as well as new records and other interesting data, have been discovered and are dealt with here. Most of the species mentioned were found in Victorian waters. My thanks are due to Dr. O. W. Tiegs and Messrs. Stach and Tubb, of the University of Melbourne, for collected material; and to Mr. R. E. Trebilcock, and to Mr. John Clark, of the National Museum, Melbourne, for much valuable suggestion and assistance.

Types of new species are located in the National Museum, Melbourne.

Order: CALYPTOBLASTEÆ.

Family: SERTULARIIDÆ.

Genus **Sertularia** Linné.

SERTULARIA UNGUICULATA Busk, 1852.

Sertularia unguiculata Busk, Voy. "Rattlesnake," 1852, p. 394; *idem*, Bale, Cat. Aust. Hyd. Zooph., 1884, p. 76, pl. VI., figs. ix.-xii., pl. XIX., fig. viii.; *idem*, Bale, Proc. Roy. Soc. Vic., n.s., vi., 1893, p. 100; *idem*, Marktanner-Turneretscher, Ann. K. K. naturhist. Hofmus. Wien., v., 1890, p. 231; *idem*, Farquhar, Trans. N.Z. Inst., xxviii., 1896, p. 463; *idem*, Bale, Sci. Res. "Endeavor," ii., 1914, p. 16, *ibid.*, iii., 1915, p. 273.

Sertularia sp. Coughtrey, Ann. Mag. Nat. Hist. (4), xvii., 1876, p. 29, pl. III.

Thuiaria ambigua Thompson, Ann. Mag. Nat. Hist. (5), iii., 1879, p. 111, pl. XIX., figs. i., ii.; *idem*, Kirchenpauer, Abh. Nat. Ver. Hamburg, viii., 1884, p. 25.

Desmoscyphus unguiculata (Busk), Allman, Journ. Linn. Soc., Zool., xix., 1885, p. 144, pl. XVII., figs. v.-vii.

Dynamena australis Kirchenpauer, Verhand. K.L.-C. Akad., xxxi., 1864, p. 11, figs. v. a-c.

Sertularia australis (Kirchenpauer), Thompson, Ann. Mag. Nat. Hist. (5), iii., 1879, p. 105, pl. XVII., figs. iv., iv.a; *idem*, Bale, Cat. Aust. Hyd. Zooph., 1884, p. 72, pl. VIII., figs. vii., viii.

Desmoscyphus pectinatus Allman, "Challenger" Report, Zool., xxiii., *Hydroida*, ii., 1888, p. 71, pl. XXXIV., figs. i-ib.

- Sertularia challengerii* Nutting, Amer. Hyd., ii., Sert., 1904, p. 54, pl. II., figs. i., ii.; *idem*, Billard, Ann. Sci. Nat. (9), xi., 1910, p. 19, fig. vi.
- ?*Thuiaria heteromorpha* Allman, Journ. Linn. Soc., Zool., xix., 1885, p. 147, pl. XX., figs. i.-v.
- non *Sertularia australis* (Kirchenpauer), Bale, Trans. and Proc. Roy. Soc. Vic., xxiii., 1887, p. 93.
- Amphisbetia unguiculata* (Busk), Stechow, Zool. Jahrb., Syst., xlvii., 1923-24, p. 200.

Two points of interest regarding this very variable species are to be noted in two sets of specimens, comprising one from Balnarring and three from Flinders. These are the character of the stem-internodes and the form of the pinna-hydrothecae. The Balnarring specimen is a pinnate shoot 7 mm. long, the stem-internodes of which are all short except the proximal one, which is of the long or double variety; while of the forms from Flinders, which range from 10 to 15 mm. in length, one is similar to that just described and the other two have the proximal half to two-thirds of the stems formed entirely of long internodes, giving place distally to short ones. Regarding the form of the hydrothecae, those of the pinnae of all four specimens show a well-marked and constant tendency to gradual elevation along the length of the pinna. At the proximal end of each pinna the internodes are not very distinctly marked off, and the paired hydrothecae are twisted outwards and downwards; more distally, this twisted upper part of the hydrotheca moves, as it were, upwards, while, at the summit, each internode is distinctly marked off and bears a pair of more or less erect hydrothecae in close contact.

From the nature of the stem-internodes, it seems that the Balnarring form is extremely close to the small variety described by Bale, while the Flinders specimens represent a transition series between it and the large form, with the proportion of long internodes gradually increasing. The transition series of pinna-hydrothecae has not been described previously, although many peculiarities of this species have been noted by other workers; it is, however, a regular and striking feature of these Western-port specimens.

Loc.—Balnarring, Flinders (Westernport). Previously recorded from many localities around the south-eastern coast of Australia, New Zealand, and Brazil.

Genus *Sertularella* Gray.

SERTULARELLA ROBUSTA Coughtrey, 1875.

(Fig. 1.)

- Sertularia simplex* Hutton Coughtrey, Trans. N.Z. Inst., vii., 1874, p. 283 (pars), pl. XX., fig. x
- Sertularella simplex* (Hutton), Coughtrey, Trans. N.Z. Inst., viii., 1875, p. 300 (pars); *idem*, Coughtrey, Ann. Mag. Nat. Hist. (4), xvii., 1876, p. 27 (pars).

- Sertularella robusta* Coughtrey, Trans. N.Z. Inst., viii., 1875, p. 300; *idem*, Coughtrey, Ann. Mag. Nat. Hist. (4), xvii., 1876, p. 27; *idem*, Farquhar, Trans. N.Z. Inst., xxviii., 1896, p. 464; *idem*, Bale, Trans. N.Z. Inst., lv., 1924, p. 240; *idem*, Trebilcock, Proc. Roy. Soc. Vic., n.s., xli., 1928, p. 16, pl. VI., figs. iii.-v.; *idem*, Blackburn, McCoy Soc. Res., in Proc. Roy. Soc. Vic., n.s., xlix., 1937, p. 367.
- ? *Sertularella* sp. Thompson, Ann. Mag. Nat. Hist. (5), iii., 1879, p. 101.
- ? *Sertularella microgona* von Lendenfeld, Proc. Linn. Soc. N.S.W., ix., 1884, p. 416, pl. VII., figs. i.-iii.; *idem*, Bale, Proc. Linn. Soc. N.S.W.; (2), iii., 1888, p. 763, pl. XVI., fig. viii.
- Sertularella angulosa* Bale, Proc. Roy. Soc. Vic., n.s., vi., 1893, p. 102, pl. IV., fig. vi.
- non *Sertularella tenella* Alder, Hartlaub, Zool. Jahrb., xiv., 1901, p. 370.

Two specimens, one from Pt. Leo, Westernport, and the other from Lady Julia Percy Island, present such a close resemblance to Coughtrey's and Trebilcock's descriptions and figures of *S. robusta* that they must be regarded as the first records of this form outside New Zealand waters. Actually since *S. angulosa* Bale has been definitely referred to this species by Trebilcock, and since the locality for this form, although not given by Bale, was presumably Australian, the range of the species must already be considered as probably extending to Australia. *S. angulosa*, however, has a strongly zig-zagged stem whereas these specimens are almost straight-stemmed and in every way comparable with the normal New Zealand form; the hydrothecae range in length from 0.4 to 0.5 mm., and are therefore to be assigned to the category of "small forms" as defined by Trebilcock.

Hartlaub refers not only *S. robusta* and *S. angulosa* but also *S. microgona* von Lendenfeld to the single species *S. tenella* Alder; while this is not accepted by Bale, it seems that the strong similarity between these forms, including *S. microgona*, should permit their being referred to the same species, i.e. *S. robusta*. If *S. microgona* is to be so admitted the known range would include Port Phillip. Failing this, however, and in view of the doubtful locality for *S. angulosa*, these two specimens are the first definite Australian records; in any case they extend considerably the range of the normal variety.

Loc.—Pt. Leo (Westernport), and Lady Julia Percy Island. Previously recorded from New Zealand; and doubtfully from Australia.

Genus **Dynamena** Lamouroux.

DYNAMENA CRISIODES Lamouroux, 1824.

(Fig. 3.)

Dynamena crisiodes Lamouroux, Des. Polyp. Flex. in Quoy et Gaimard, Voy. l'Uranie et la Physicienne, Zool., 1824, p. 613, pl. XC., figs. xi., xii.; *idem*, Billard, Hyd. Siboga-Exped. viii., Synthecidae et Sertularidae, 1925, p. 181, pl. VII., fig. xxi., text-figs. xxxvi.-xxxvii.; *idem*, Briggs and Gardner, Brit. Mus. Great Barrier Reef Exped. Sci. Reports, Hydroida, iv., vi., 1931, p. 190.

- Dynamena tubuliformis* Marktanner-Turneretscher, Ann. K. K. naturhist. Hofmus. Wien., v. 1890, p. 238, pl. IV., fig. x.; *idem*, Stechow, S.B. Ges. Morph. u. Physiol. München, xxxi., 1919, p. 23; *idem*, Stechow, Journ. Coll. Sci. Imp. Univ. Tokyo, xlv., viii., 1923, p. 12; *idem*, Stechow, Zool. Jahrb., Syst., xlvii., 1923-24, p. 163.
- Thuiaria tubuliformis* (Marktanner-Turneretscher), Nutting, Amer. Hyd., ii., Sert., 1904, p. 70, pl. XI., figs. i.-viii.; *idem*, Billard, Bull. Mus. Hist. Nat., x., 1904, p. 482, text-fig. ii.; *idem*, Billard, Bull. Mus. Hist. Nat., xiii., 1907, p. 275; *idem*, Clarke, Mem. Mus. Comp. Zool. Harvard, xxxv., 1907, p. 14, pl. IX., figs. i.-v.; *idem*, Warren, Ann. Natal Govt. Mus., i., iii., 1908, p. 314, fig. xii.; *idem*, Thorneley, Journ. Linn. Soc., Zool., xxxi., 1908, p. 83; *idem*, Ritchie, Proc. Zool. Soc., 1910, p. 832; *idem*, Jäderholm, Redogörelse f. Norrköpings H. Allm. Läroverk Läsaret, 1916-17, p. 14; *idem*, Briggs, Rec. Aust. Mus., xii., iii., 1918, p. 38.
- Sertularia tubuliformis* (Marktanner-Turneretscher), Levinsen, Vid. Medd. f. den natur. Foren. Kbhvn., lxiv., 1913, p. 298; *idem*, Broch, Beiträge zur Kenntnis der Meeresfauna West-Afrikas, hrsggeg. von W. Michaelsen, Hydrozoa, 1914, p. 34.
- Sertularia ?tubuliformis* (Marktanner-Turneretscher), Broch, Danish Ingolf Exped., v., vii., 1918, p. 132, text-fig. lxxi.; *idem*, Jäderholm, Arkiv. f. Zool., xii., ix., 1919, p. 15.
- Sertularia vegae* (Thompson), Pictet, Rev. Suisse Zool., i., 1893, p. 44, ii., figs. xxxvii.-xxxviii.
- non *Thuiaria vegae* Thompson, Vega Exped. Vetenskap. Arbeten, iv., 1887, p. 397, pl. XX., figs. xviii., xx.-xxii.

The discovery of a single specimen of this species from St. Vincent's Gulf extends the range to the southern as well as the eastern coast of Australia. The colony is about 20 mm. in height, and agrees closely with the accounts and figures furnished by Pictet; opposite instead of alternate branches arise from the proximal stem-internode.

Loc.—St. Vincent's Gulf, South Australia. Previously recorded from various localities on the eastern coast of Australia, Amboyna, Christmas Island, Red Sea, Suez, Natal, St. Thomas, Bahia, Florida, Bahamas, and the Gulf of Panama.

Family: SYNTHECIIDAE.

Genus **Hincksella** Billard.

HINCKSELLA CYLINDRICA (Bale, 1888).

(Fig. 2.)

- Sertularella cylindrica* Bale, Proc. Linn. Soc. N.S.W. (2), iii., 1888, p. 765, pl. XVI., fig. vii.
- Synthecium cylindricum* (Bale), Nutting, Amer. Hyd., ii., Sert., 1904, p. 136 (pars), pl. XLI., fig. vii.; *idem*, Stechow, Zool. Jahrb., Syst., xlvii., 1923-24, p. 150 (pars).
- Hincksella cylindrica* (Bale), Billard, Arch. Zool. exp. gen., lviii., Notes et Revue, 1918, p. 22.

A shoot of this form from Westernport was observed to bear a very curious type of gonosome. As no gonosome has been described previously for this species, the following note is submitted.

Gonosome, a more or less spherical envelope of perisarc, about 0.8 mm. in diameter, containing generative products (nature indeterminable) borne on an undulating peduncle arising from the stem at the base of the proximal hydrotheca; no apparent orifice of any kind.

This last point represents a feature which is certainly very unusual, and indeed possibly unique, but as far as can be seen from the mounted specimen there is no orifice at all in this form; the only other gonosome collected is a rather crumpled unmounted specimen which, although closely studied from all sides, appears to be completely closed.

Nutting regarded this species as synonymous with *Sertularella halecina* Torrey, and referred it to the genus *Synthecium* on the nature of the gonosome as described by that author. In this he was followed by Stechow for apparently the same reason. The discovery of this new gonosome however indicates that the Australian form is in fact a *Hincksella* and in no way related to Torrey's species, which becomes therefore *Synthecium halecinum*.

Loc.—Westernport, growing on the Ascidian *Pyura crinitis-tellata* Herdman. Previously recorded from Port Jackson.

Family: **HALECIIDAE**.

Genus **Halecium** Oken.

HALECIUM BUCHANANAE, sp. nov.

(Figs. 4, 5.)

Hydrorhiza creeping, thick, somewhat wrinkled; stems stout, generally about 1 mm. in height, divided into segments, slightly branched, the number of branches never exceeding two; segments often rather irregular in form and succession, but generally more or less cylindrical, with a tendency to become slightly constricted at mid-height; hydrophores deep, tumbler-shaped, borne at summits of stems and/or branches; branches short, terminating in hydrophores, in rare cases tending to bear additional hydrophores along their lengths. Hydranths brown, non-retractile, very large, each possessing a single circlet of from 15 to 20 short filiform tentacles. Gonosome unknown.

This curious form was found in considerable numbers upon a single fragment of seaweed washed up at Balmarring; generally, the form of the hydrophyton is as figured, consisting of a short pedicillate stem with a terminal hydrophore and giving off near the summit a single short branch also with a terminal hydrophore. In one example, however, the stem is forked at the summit, each branch with a terminal hydrophore and one bearing an additional

hydrophore along its length; this specimen is nearly twice the usual height, the stem of the upper part apparently having been regenerated, arising from within a hydrophore a little below mid-height.

This species bears some resemblance to *H. robustum* Pieper, from which it differs mainly in the uniformly small size and sparseness of branches.

Loc.—Bathnarring (Westernport).

Family: CAMPANULARIIDAE.

Genus **Obelia** Peron et Lesueur.

OBELIA AUSTRALIS von Lendenfeld, 1884.

(Fig. 6.)

Obelia australis von Lendenfeld, Proc. Linn. Soc. N.S.W., ix., 1884, pp. 604, 920, pl. XLIII., figs. xix.-xxii.; *idem*, Bale, Proc. Linn. Soc. N.S.W., (2), iii., 1888, p. 753, pl. XII., figs. i., ii.; *idem*, Farquhar, Trans. N.Z. Inst., xxviii., 1896, p. 460; *idem*, Hartlaub, Zool. Jahrb., Syst., xiv., 1901, p. 367; *idem*, Bale, Trans. N.Z. Inst., lv., 1924, p. 231; *idem*, Trebilcock, Proc. Roy. Soc. Vic., n.s., xli., 1928, p. 2.

Obelia dichotoma (Linné), Hartlaub, Zool. Jahrb., Syst., Suppl.-bd., vi., 1905, p. 580.

This form, represented by a single specimen in the Zoological Museum of the University of Melbourne, appears definitely referable to *O. australis*. The colony, which is thick and bushy and about 5 cm. in height, was found growing upon an isopod attached to the fin of a shark caught in Port Phillip Bay. In spite of its poor condition and the absence of gonangia the identification, based upon comparison with specimens from the type locality, appears quite certain.

This Port Phillip specimen is more robust than most specimens of *O. australis*, and in the manner of its branching and the relatively shorter length of the hydrotheca-pedicels suggests a very close relationship with *O. dichotoma* Linné. It is the author's opinion that closer examination of the two species would indicate, as Hartlaub suggested, that they are synonymous; at present it seems that the only outstanding difference between the two is the character of the diaphragm of the hydrotheca, which is horizontal in *O. dichotoma* but definitely oblique in *O. australis*: pending such examination, however, von Lendenfeld's specific name is retained.

In his original description of this species von Lendenfeld gave as the locality the eastern coast of New Zealand, from which region it has since been recorded by other authors. In another part of his monograph (p. 920) this author however says: "I have described this species from the polyp-colonies and the young

larvae which I obtained in Port Jackson." It is therefore somewhat doubtful whether *O. australis* has hitherto been found in Australian waters or not; but the occurrence of this colony definitely extends the range to Victoria.

Loc.—Port Phillip Bay. Previously recorded from New Zealand, St. Paul Island, and doubtfully from Port Jackson.

Genus **Clytia** Lamouroux.

CLYTIA DELICATULA (Thornely, 1900).

(Fig. 7.)

Clytia sp. Inaba, Zool. Mag. Tokyo, 1890, figs. xxxiv.-xxxv.

Obelia delicatula Thornely, Willey's Zoo. Results, iv., 1900, p. 453, pl. XLIV., fig. vii.

Campanularia delicatula (Thornely), Jäderholm, Bih. Svensk. Vetensk. Akad. Handl., xxviii., iv., xii., 1902, p. 3.

Clytia delicatula (Thornely), Stechow, Abh. Bayer Akad. Wiss., iii., Suppl.-bd., ii., 1913, p. 65, figs. xx., xxi.; *idem*, Stechow, Zool. Jahrb., Syst., xlvii., 1923, p. 109; *idem*, Briggs and Gardner, Brit. Mus. Great Barrier Reef Expedition Sci. Reports, iv., vi., Hydroida, 1931, p. 187, text-fig. 1.

Briggs and Gardner recorded this form with some hesitation at Low Island. Recently specimens were collected at Mallacoota Inlet, thereby confirming the occurrence of the species in Australian waters. The stems of these specimens are simple, very slender, about 4 mm. in height, with 9 or 10 annulations at the base, 2 or 3 just below the hydrothecae, and occasionally others to the number of 3 at about mid-height. About 10 prominent crenations are ranged along the margin of each hydrotheca. Gonangia are absent.

Loc.—Mallacoota Inlet, Victoria. Previously recorded from Low Island (Great Barrier Reef), New Britain, and Japan.

Order: GYMNOBLASTEA.

Family: PENNARIIDAE.

Genus **Pennaria** Goldfuss.

PENNARIA WILSONI Bale, 1913.

(Figs. 8, 9.)

Halocordyle australis Bale, Proc. Roy. Soc. Vic., n.s., vi., 1893, p. 94.

Pennaria wilsoni Bale, Proc. Roy. Soc. Vic., n.s., xxvi., 1913, p. 116.

This species was originally described, without figures, from small mounted portions which had been dredged in Port Phillip Bay. Since it has now been collected abundantly in shallow water near Cowes, it is possible to figure this species and make some necessary additions to the description.

The number of filiform tentacles was stated by Bale to be between 8 and 10; here the range is from 6 to 9. The superior capitate tentacles, as he says, in mature specimens are either 4 or 5 in number. Gonophores, when present, 1 or 2 in number, exact structure indeterminable from mounted specimens. Hydranths red in colour. Length of hydranth pedicels, from 1.5 to 3 mm.

The specimens from Cowes attain an average height of 5 or 6 cm. They are completely monosiphonic, with the main branches arising alternately at more or less regular intervals. As in Bale's specimens the hydranth-pedicels differ in their disposition from most other species of *Pennaria* in being biserially arranged and more or less alternately disposed along the branches.

Loc.—Cowes (Westernport). Previously recorded from Port Phillip Bay.

Family: BOUGAINVILLIDAE.

Genus **Bimeria** Wright.

BIMERIA AUSTRALIS sp. nov.

(Figs. 10-12.)

Stem monosiphonic, arising from a thick creeping hydrorhiza, and giving rise to hydranths (about 3 to 5) in number, at the ends of fairly long branches. Branches a little thinner than the stem, generally forming a fairly wide angle with it. Stems and branches wrinkled, generally very strongly. Hydranths each possessing a single circlet of about 10 or 11 filiform tentacles, the perisarc of the stem extending upwards to sheath each tentacle for more than half its length. Gonophores fixed sporosacs, each encased in a perisarcial envelope, connected by short peduncles to the stem or branches; the radial canals at the proximal end of each gonophore rise upwards and around the more distal globular generative mass to the region of its equator.

As appears to be the case with most species of *Bimeria*, the actual extent of the perisarc upon the tentacles is difficult to determine accurately; it definitely rises to more than half the length of each tentacle, and in many cases appears to envelop it completely.

This form is so far represented only by the single occurrence at Cowes of a luxuriant growth on the stem of a colony of *Pennaria wilsoni*, and the seaweed to which it was attached. The average height of the shoots is about 5 mm. In this size, as well as in the number of tentacles, the species appears to approximate most closely to *B. pusilla* Fraser; but apart from the characteristic wrinkling of the stem and branches, the nature of the branching and the extent of the perisarc upon the hydranths are quite distinct features.

Loc.—Cowes (Westernport).

Genus ?**Wrightia** Allman.

?**WRIGHTIA** sp.

(Figs. 13, 14.)

These specimens were obtained from Mallacoota Inlet; they are in rather poor condition, and exhibit no gonophores whatever. For this reason it is impossible to assign them to either the genus *Wrightia* or the genus *Perigonimus*, both of which occur typically as simple stems arising from a more or less undifferentiated hydrorhiza. The extreme slenderness of the stems, however, appears rather more comparable with the descriptions and figures of *Wrightia arenosa* Alder, the only recorded species of this genus; than with any species of *Perigonimus*. The gonophore will require to be obtained and studied before any more definite diagnosis can be made.

Stems slender, unbranched, about 2 mm. in height, arising from a simple tubular hydrorhiza; hydranths clavate, each with a subconical hypostome and a single circlet of 10 or 11 slender filiform tentacles. Gonophores not present.

Family: CLAVIDAE.

Genus **Turritopsis** McCrady.

TURRITOPSIS DOHRNI (Weismann, 1883).

(Figs. 15, 16.)

Dendroclava dohrni Weismann, Entstehung d. Sexualzellen b.d. Hydromedusen, Jena, 1883, pp. 26, 215, pl. XII., figs. vi.-ix.; *idem*, du Plessis, Recueil Zool. Suisse, iv., 1888, p. 531; *idem*, Zoja, Boll. Cs. Pavia., Anno, 13, N. iii.-iv., 1891; *idem*, Pictet, Revue Suisse Zool., i., 1893, p. 6, pl. I., figs. i., ii., pl. III., fig. liv.; *idem*, Goette, Zeits. f. wiss. Zool., lxxxvii., 1907, p. 42, pl. IV., figs. lxxviii.-lxxxiv.; *idem*, Neppi, Pub. Staz. Zool. Napoli, ii., i., 1917, p. 42, fig. xiv.

Cordylophora dohrni (Weismann), Motz-Kossowska, Arch. Zool. exp. gen., (4), iii., 1905, p. 63.

Turritopsis dohrni (Weismann), Stechow, Zool. Jahrb., Syst., xlvii., 1923-24, p. 53.

?*Turritopsis nutricula* McCrady, Brooks, Mem. Boston Soc. Nat. Hist., iii., 1886, p. 387, pl. I.; *idem*, Mayer, Medusae of the World, 1910, p. 143, text-fig. lxxvi.; *idem*, Fraser, Washington, D.C. Dept. Comm. Lab. Bull. Bur. Fish., xxx., 1912, p. 345, text-fig. i.; *idem*, Stechow, Zool. Jahrb., Syst., xlii., 1919, p. 12.

These polyps from Westernport at first sight appear to belong to the genus *Tubiclava* but when in one of the mounted specimens a definite polysiphonic structure was found it became obvious that a further diagnosis must be sought. This specimen, which also bore gonophores, was dredged off Tooradin, whereas the other from the Pt. Leo reef was only very slightly branched, with no suggestion of polysiphonism, and bore no gonophores;

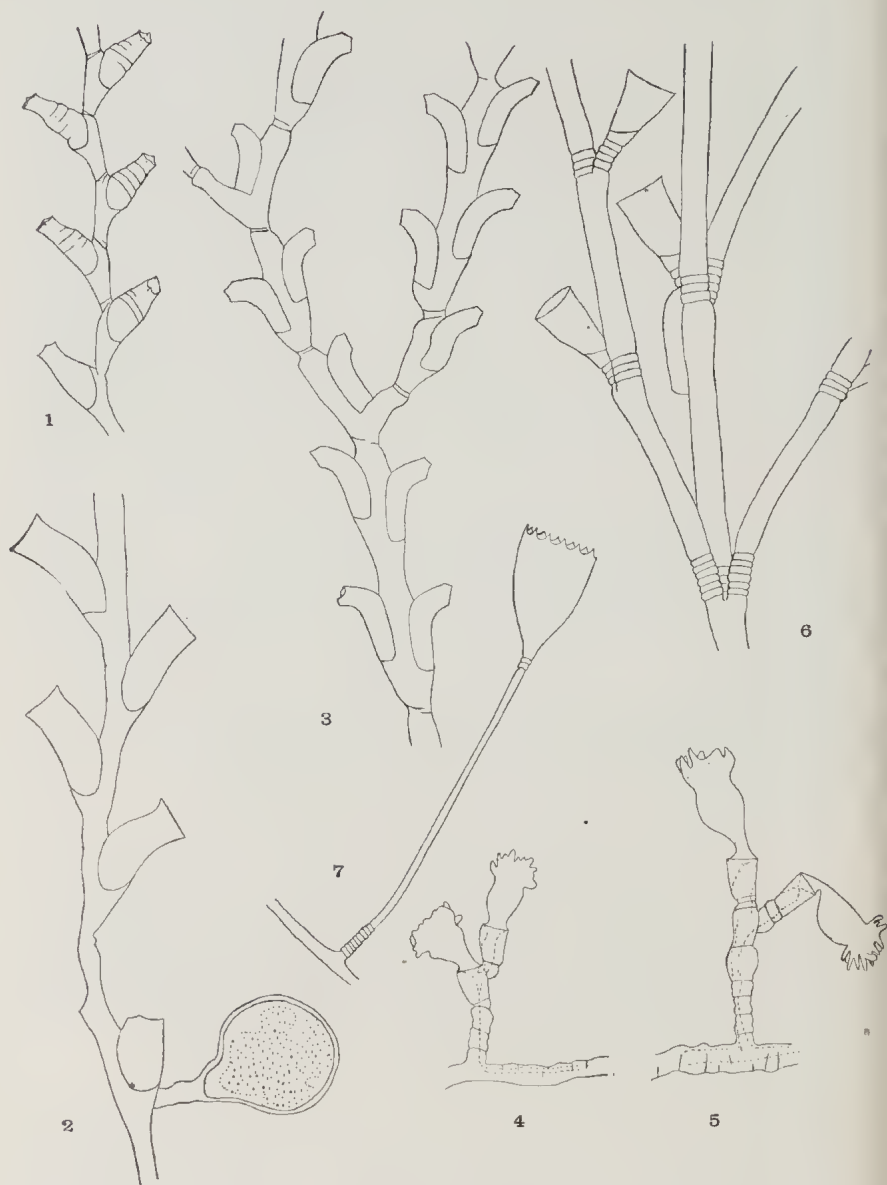
the very characteristic undulations of the internal perisarc, however, as well as the character of the hydranths, made it clear that they both belonged to the same species. This double wall of perisarc, with the internal layer strongly undulated, is noted by Zoja in his specimens from Naples, while Pictet and Goette draw special attention to the polysiphonism. Other characteristic features are the conspicuous rose-red hydranths, which are cylindrical in extension and clavate in contraction, and each bearing about 12 to 18 filiform tentacles scattered over the whole surface; and the gonophores, springing from below the hydranths in the number of 2 to 5, each attached by a short peduncle and encased in a more or less loose envelope of perisarc. The actual nature of the gonophores is not apparent in the mounted specimens, but there are indications that they are medusoid in character, as described by Weismann, Pictet, Goette, Zoja and Neppi. The polysiphonic character in the Tooradin specimen is almost exactly as described by Pictet, except that while he found 3 or 4 stem-fasciculations enclosed in a common third layer of perisarc there appears in this case to be only 2. The general resemblance is thus very striking; and these Westernport occurrences add another species to the Australian list.

Neppi and Stechow appear to regard the polyp of *Turritopsis nutricula* McCrady as belonging to this species. In Brooks' figure there is no indication of internal perisarc undulation or of fasciculation, though in other respects it strongly resembles *T. dohrni*.

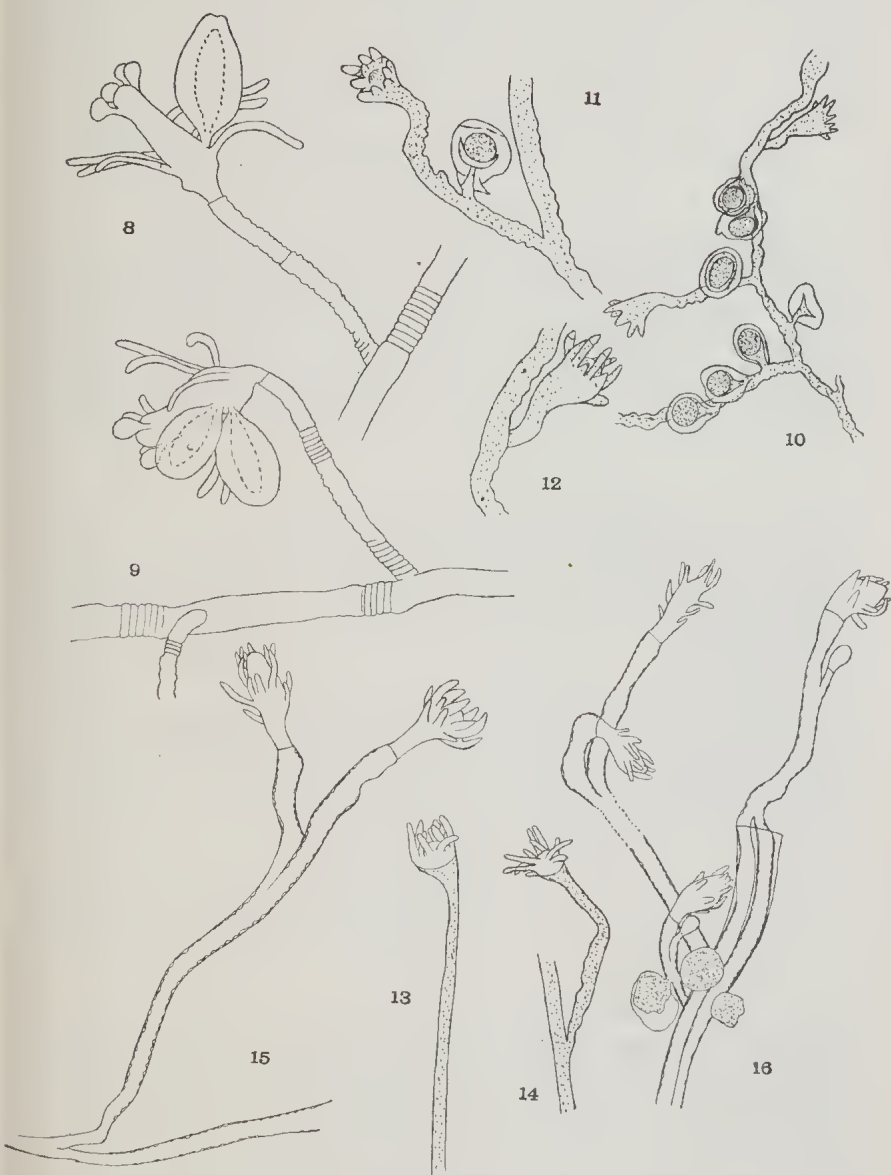
Loc.—Tooradin, Pt. Leo (Westernport). Previously recorded from the Mediterranean, Amboyna, and also Carolina if *T. nutricula* is admitted.

Addendum.

In a former publication (Proc. Roy. Soc. Vic., n.s., xlix., 1937, p. 365, fig. i.) the present author described a Hydrozoan species as new under the name of *Ophiodissa fragilis*; this he has since found to be identical with *Phylactotheca armata* Stechow, 1924 (Zool. Anz., lix., p. 59). It is intended to include a further discussion upon this species in a paper now in preparation.



Figs. 1-7. Fig. 1, *Sertularella robusta* Coughtrey, ($\times 15$); Fig. 2, *Hincksella cylindrica* Bale, ($\times 15$); Fig. 3, *Dynamena crisioides* Lamouroux, ($\times 15$); Figs. 4, 5, *Halecium buchananæ*, sp. nov., ($\times 15$); Fig. 6, *Obelia australis* von Lendenfeld, ($\times 15$); Fig. 7, *Clytia delicatula* Thornley, ($\times 15$).



Figs. 8-16. Figs. 8, 9, *Pennaria wilsoni* Bale, ($\times 15$); Fig. 10, *Bimeria australis*, sp. nov., ($\times 15$); Figs. 11, 12, *Bimeria australis*, sp. nov., ($\times 30$); Figs. 13, 14, *Wrightia* sp. ($\times 15$); Figs. 15, 16, *Turritopsis dohrni* Weismann, ($\times 15$).